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An investigation into how small companies in London and the South East UK engage in IT offshore outsourcing and the impact of culture on this phenomenon

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Abstract

Small businesses are increasingly engaged in IT offshore outsourcing but are as yet few academic studies into this phenomenon. One of the major stumbling blocks of IT offshore outsourcing is cultural difference. A framework of propositions was empirically tested by means of case study of three small businesses based in London and the southeast of England in order to understand the specific challenges and changes for small companies and micro firms engaging in IT offshore outsourcing. Cultural differences are found to play a large part in the outcome of these projects.

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1. Introduction

Offshore outsourcing of IT business projects has been growing since the late nineties; therefore, it is a relatively new area of academic research. Once the preserve of large, multi-national corporations the latest entrant to IT offshore outsourcing is the small and medium-sized enterprise. Chang and de Búrca (2015)¹ review the current literature and based on Davis and Olson's revised version of Leavitt's diamond model² develop a conceptual framework which outlines the key elements of small businesses undertaking offshore IT outsourcing (Fig. 1). In this

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paper the system of methods to test the propositions is described and the means by which this research project was undertaken are discussed. The methods used in its research are outlined and classified. Three case study candidates have been identified from a survey that was transmitted on social media. The senior managers submitted themselves for an in-depth interview and the findings are presented in this paper. The overall conclusions of this research are drawn in the final section.

The research problem can be summarized by three questions:

- What is the strategic planning for the small business owner/manager that leads to the decision to outsource?
- What impact does the size of the company have on the decision to engage in IT offshore outsourcing and the outcome?
- How does a small company manage cultural differences in IT offshore outsourcing projects?

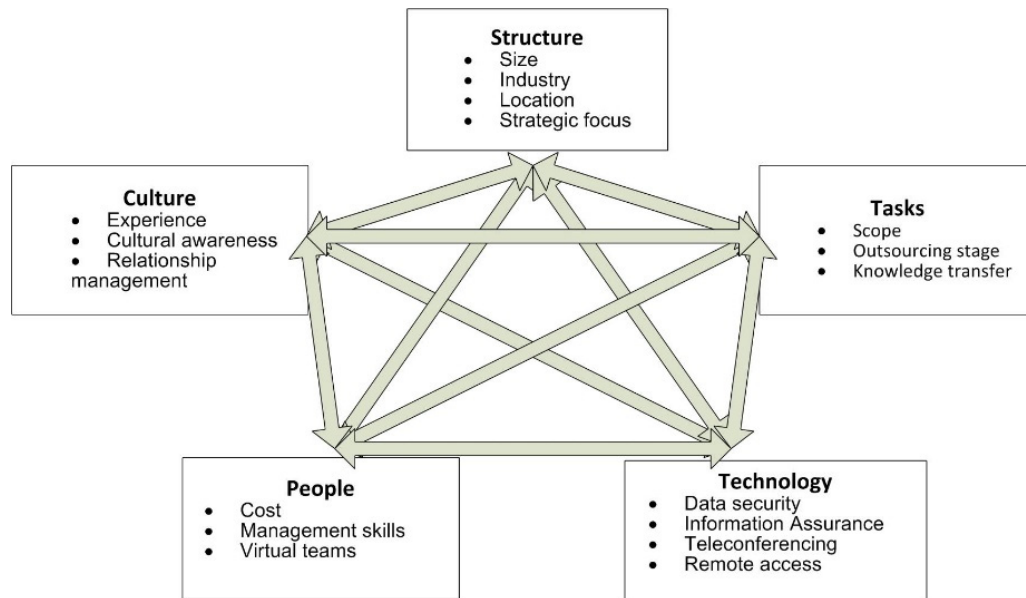


Fig. 1. Framework of SMEs offshore IT outsourcing as it applies to Davis and Olson's revised version of Leavitt's diamond model¹

2. Research methodology

Mixed methods were employed for this study which combined at least one qualitative and one quantitative method in a single research project³. An initial recruitment questionnaire was chosen to identify prospective case study candidates; however, the bulk of the research came from in-depth case studies. A questionnaire is a set of questions "devised for the purposes of a survey or statistical study"⁴. The method employed in this research is categorized as a "recruitment questionnaire"⁵. The data collected are limited to identifying the respondent's eligibility as a potential case study candidate. It took the form of a web-based recruitment questionnaire, using a web survey company (SurveyMonkey) and was delivered via email and social networks such as LinkedIn, Facebook and Twitter. The principal benefit of the online questionnaire was the ease of distribution.

The candidates recruited from the questionnaire became the subject of case studies. A case study is "an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context"⁶. This is the rationale for choosing this method. It allows for the discovering of the why, as well as what and how. It facilitates a "rich understanding of the context of the research and the processes being enacted"⁷. The primary data of the case study took the form of semi-structured interviews to explore the research themes with senior managers of the small businesses identified as research candidates by the preliminary questionnaire. Some of the questions were predefined in order to answer the research questions and to act as a guide to the interview. These were recorded and analyzed according to a classification system in order to provide data to answer the research questions.

3. Findings

The criteria for selecting the case study firms were (i) small companies employing fifty or fewer people; (ii) based in the southeast of the UK; and (iii) engaged in IT offshore outsourcing.

- Firm A is an independent financial broker specializing in business and personal loans in South East England. The firm is a micro business with three employees. It has been employing people based offshore for selective outsourcing in the form of web development from the outset. After an initial negative experience using a vendor in India, they have since used web-based freelancing platforms such as Odesk, Elance or PeoplePerHour to hire individuals directly from around the world to perform tasks such as website development, content management and smaller tasks such as web forms. One of the contractors based in Armenia has been on board for two and a half years. Smaller design tasks are performed by contractors in the Philippines. In total there are three to four contractors based in other countries providing services to Firm A. Initially the offshore IT outsourcing was managed directly by the owner. Since the business has grown and become more profitable, Firm A has hired a UK-based developer based remotely in Bristol to oversee these projects and people. The owner still writes the specifications. There have been cost savings for Firm A. However, the experience of managing IT projects onshore has also been a drain on time and energy. The managing director/owner has been interviewed for the case study.
- Firm B is a London-based wholesaler and retailer of non-durable consumer goods. The owner who was interviewed for the case study works on her own with her assistant. From the outset, Firm B has had a total offshore outsourcing arrangement for their e-commerce platform, from which most of their income is generated. Firm B initially managed the offshore IT project directly with an India-based company. The managing director of Firm B assumed that because she was Indian and she had prior experience of managing offshore IT providers that this would be straightforward; however, that turned out to be a “disaster” in terms of delays and things getting lost in communication. It became quite costly and time consuming and so Firm B decided that they would move to another company who, while still based offshore, had a UK representative who could act as a liaison. There were still delays and communication difficulties. However, having someone based in the UK meant that the project came to a more successful conclusion.
- Firm C is a small business with twelve employees providing insurance and insurance systems to underwriters. From the outset, Firm C has been using a partner in Serbia for selective IT offshore outsourcing, primarily for the development of a front end web-based system and online technical support. The CEO had a previous business arrangement with the director of the company in Serbia and so they agreed that the Serbia based company would provide these services. It was initially hoped that all customer facing technical support would be done by the Serbia-based company; however, this had to be scaled back due to “cultural issues”. Firm C employed the services of a project manager based in the Serbian company who also oversaw operations in Serbia. The UK based developers would occasionally visit Serbia or the project manager would visit the UK and on that basis projects were scoped and requirements passed to the Serbia-based development team. The firm’s senior architect has been interviewed for the case study.

3.1. Structure

The purpose of section was to uncover what factors were involved for the case firms in deciding to outsource and what impact their size, industry/sector and location had on their decision to outsource.

- Strategic focus

The answer to the research question: “what was the strategic planning that led to the decision to outsource?” showed that there was little in the way of strategic planning for IT offshore outsourcing. Just one of the respondents had a written down strategic plan, which mentioned the decision to source IT requirements offshore; however, it was not

shared. These findings are broadly in line with the literature that strategic planning in small businesses is often limited to the short term⁸.

The principal reason to engage in this practice for all three of the interviewees was the perception that IT offshore outsourcing would lead to a reduction in cost for the small companies. Firm A's managing director/owner stated that "they're cheaper", while Firm C's senior architect stated that "it was in the interests of cutting down costs". Firm B's managing director stated that the decision "mostly came down to cost" but that the "ability to work in a more flexible format" outside of nine to five was also a factor in selecting an offshore provider.

- Industry/sector

The practice is more widespread than the literature has suggested that manufacturing, banking and finance and technology are the main industries engaging in offshore outsourcing for IT requirements. Offshore outsourcing was considered the norm in their respective sectors by the interviewees. Firm B was of the opinion that it was usual in the sector, but probably not for a company of their size. Firm A stated "I think increasingly people are getting the occasional thing done offshore". Since Firm C is in the IT sector the interviewee was of the opinion that it was especially prevalent.

- Location

The case studies were based in London and the South East. Each of the interviewees responded that location was a major factor in their decision to locate IT services offshore. As Firm A put it "being in the southeast, the costs are the highest and the savings are therefore the greatest" when using offshore providers for IT needs. This is in line with the literature where the disparity of the London living wage compared to the rest of the country is discussed.

- Size

Some light was thrown on the research question "What impact does the size of the company have on the decision to engage in IT offshore outsourcing and the outcome?" in the answers relating to size. Two out of the three interviewees felt that they were treated no differently than if they were large companies. There was variance in the literature review findings on this aspect. Di Gregorio et al. were of the opinion that the flatter structure made small companies more agile and better able to pursue offshore opportunities¹¹, whereas Carmel and Nicholson and Moe et al. believe that they are disadvantaged due to size^{9, 10}. Two out of the three interviewees felt that they were treated no differently than if they were large companies. Further research into this area would be beneficial.

3.2. Tasks

The section aims to provide information on how the size of the company relates to the decision to outsource and to ascertain the impact of outsourcing stages on the business.

- Scope of activities

All of the case study companies use their offshore providers for web based application development. The degree of complexity varies. This is in line with Di Gregorio et al. who believe that offshore outsourcing would provide resources and capabilities not found internally in the small company¹¹. Firm C's offshore project was greater in complexity than that of A and B and they would go to Serbia and meet their providers on a semi regular basis, which is in line with the literature, which asserts that higher complexity of projects require greater degree of cooperation¹². Firm C also availed of technical support services from their provider for their end users. However, they found that, due to culture differences, their provider could only provide email-based support to end customers.

- Outsourcing stage

The case firms were at the post implementation stage of their IT offshore outsourcing projects. They employed different methods to manage these projects e.g. Skype, web based project management tools, email. All agreed that managing their offshore providers during the implementation stage took up a lot of time and resource.

- Knowledge transfer

Initially firms A and B managed their vendors directly using a combination of Skype chat, email and occasional telephone communication. After the failure of some projects and following the evolution of their businesses, both of these companies now have a coordinator in place. In the case of Firm A, the coordinator, based in Bristol, UK, is the senior developer who coordinates the technical aspects and manages some of the offshore people. Firm B selected a vendor with a UK office after a project “disaster” when they were dealing directly with a provider in India. This intermediary acts as the “liaison” and co-ordinates Firm B’s projects. In the case of Firm C, face-to-face meetings were used for knowledge transfer, and the services of a project manager based in the vendor’s company were also employed.

3.3. Technology

The purpose of this section aims to discover what technological tools a small company needs, if any, in order to carry out a successful IT offshore outsourcing project and whether investments of money or time are required for this endeavor.

- Data Security

Data security was not overtly mentioned by the interviewees. None of the three interviewees mentioned that databases were part of the IT offshore outsourcing projects, implying that either the data remain within the servers of the company and these are located in the UK, or that the business owners had yet to consider the impact of offshore outsourcing on the security of their data. Firm B confessed to being not entirely sure where all of their servers are located, but was firm in her belief that the company has a server in London. Firms A and C’s database servers are located in the UK. One potential threat to data security is the dependence of firms A and C on Skype for contacting their offshore outsourcing partners because Skype does not constitute a secure means of communication. There is evidence of a security flaw that can be used for DDoS (distributed denial of service attacks), of which Skype has been aware since 2010 and has not fixed^{13, 14}. Additionally, messages do not get end-to-end encryption¹⁵.

- Document Assurance

Firm C found that their providers “expect a lot more level of detail than we could often provide.” When Firm C provided this “they didn’t actually do what we wanted them to do so what was the point of providing all of this detail”. Firm C felt that this requirement for extremely detailed specifications was cultural. Over time, the offshore partner learned to adapt to a less formal approach. Firm C eventually worked out a “negotiated culture” in dealing with their offshore provider as predicted by Gregory et al.¹⁶. Firm A prefers to be as detailed and prescriptive as possible because it leads to greater quality and improved results in their experience. Firm B has a project management tool in place. This allows everyone to see “what the latest version is” and who is working on the project. The efforts made by firms A and B support Kuan and Aspinwall’s work that the higher the quality of documentation, the smoother the transition to offshore¹⁷.

- Teleconferencing

The interviewee for Firm A found that, in the main he had no requirement to speak to his providers, outside of emails and Skype chat; however, “communication is always difficult as well when you’re not speaking in front of

someone”. Firm B responded that originally communication was effected through emails and “there was a lot of stuff lost in communication”. Phone calls were only occasionally used. Since hiring a company with a UK based intermediary there is now a combination of communications tools: email; telephone; face-to-face and the online project management tool. In the case of Firm C, there was a combination of Skype chat for day-to-day technical issues and face-to-face meetings to initialize a project. Investments were made in a WebEx license and a dedicated telephone conference line, however these were rarely used. The expense of teleconferencing tools is not an issue for any of the three case study companies as these are not used for the most part. However, the data security issues associated with Skype discussed above warrant consideration of other, more robustly secure means of messaging communication, which could require investment.

- Remote access

All of the small companies’ IT offshore providers had remote access to their systems. None of this incurred a fee. There is no overhead for small companies using remote access, contrary to the fears of Carmel and Nicholson (2005)⁹. The requirement for remote access is therefore not considered a barrier to entry for small companies.

3.4. People

Small firms engage in offshore IT outsourcing to reduce numbers of employees and other people-related costs and gain expertise they lack. Cost is a major motivation to source IT requirements offshore; however, there are hidden expenses associated with these projects that can, in some cases, outweigh the benefit.

- Cost

Cost was cited by all three firms as the primary motivator to move offshore for their IT needs. Firm A’s owner, in line with Moe et al. where the focus needs to move from cost¹⁰, would counsel against differentiating between suppliers solely based on cost: “you need to focus less on the cost, I mean, I was going for bargain basement workers all the time and inevitably I got what I paid for.” Firm A also found that whilst there were cost savings it took more of the business owner’s time to realize these. Firm B found that in the first, failed offshoring project the costs spiraled and took all of her time to manage, to the point that she could not focus on any other part of the business. These findings are in agreement with Di Gregorio that scale of saving is diminished¹¹ and Agrawal et al. make a similar point about the hidden costs to the company of offshore outsourcing¹⁸. When this finding is applied to the small business it consumes the time and focus of the owner, which is a risk to the whole business, not only the offshore outsourcing IT project.

- Management skills

Two out of the three interviewees (B and C) had prior experience managing geographically dispersed providers. For Firm C it was a question of evolving new management skills because culturally, the Serbians “were a very different kind of people” and “more of a learning experience” compared to those providers previously encountered. Firm B found that despite prior experience of managing geographically dispersed providers, the initial attempt at offshore outsourcing failed. This has been attributed to a “clash of cultures”. Better results have been seen with a company which has an “outpost here in the UK that acts as our liaison”. Firm A did not have prior experience. For firm A’s owner, “it was a challenge. Something I had to learn”. These findings echo Plugge and Janssen’s assertion that “outsourcing is a people activity”¹⁹ and Dedrick et al. warn of the rebalancing of activities, capabilities and relationships required in the management structure²⁰.

- Virtual teams

All three case firms considered that they worked in virtual teams with their providers. Firm A interviewee found it a challenge as he was more accustomed to being able to confront in person when a piece of work did not meet

requirements. Firm C found it much easier to get work done and have it prioritized in a virtual team environment. Firm B found that for projects they would find themselves working in a virtual team arrangement and this process is facilitated by having a “lynchpin in the UK that can kind of step in where there’s communication issues and they drive the project”. This ability to work in virtual teams successfully is important according to, for example, Brooks (2006)²¹, and this is supported by the case study findings.

3.5. Culture

This section is to probe the research question: “How does a small company manage cultural differences?” It examines the extent to which cultural differences are an issue for small business and how a small business manages these.

- Cultural awareness

Awareness of cultural differences leads to active management of these issues and a better outcome for an offshore IT project²². All three of the small companies experienced cultural issues which had a detrimental effect on the IT offshore outsourcing projects. For firms A and B these cultural differences meant leaving offshore providers, finding others and starting again. Firm B described the issue as a “clash of cultures”. The “non-confrontational aspect of Indian culture” meant that instead of saying “no that can’t be done because of a technical issue” they would say “yes” and then the thing would not be done. In Firm A’s case, the frustrations mirrored those of Firm B, where assurances were given that something would be done, but then the owner would subsequently find it was not. For Firm C the cultural differences meant the curtailing of some of the services provided by the offshore company, the customer facing support element. The offshore providers tended to be “quite aggressive, and from a UK perspective, sort of rude”. They “honestly didn’t understand”.

- Experience

The literature for experience of managing IT offshore outsourcing projects tends towards the belief that experience would be of benefit to a company engaging in IT offshore outsourcing, but this has been contradicted by the experiences of the case study companies. Firms B and C had prior experience of dealing with offshore IT outsourcing and neither interviewee found their past experience beneficial. In the case of Firm C, his prior experience had been primarily with managing people from the Indian subcontinent and so he did not feel that this prepared him for managing people from Serbia. He had to evolve new ways of managing them. Firm B found that, despite being Indian herself, dealing directly with Indian suppliers was very challenging, due to the “non-confrontational aspect of Indian culture”, to which she attributes delays and failures in the initial IT offshore outsourcing project.

In terms of getting buy-in from those external to the company, for Firm C this was not an issue because the relationship was managed at a very high level by one of the directors of the UK client company. For firms A and B the answer was more nuanced. Firm A felt that it was an issue with suppliers regardless of whether they were based abroad or not. “If they don’t have a stake in your company they’re just outsiders”. Both firms A and B felt that they got better results because they themselves were highly motivated. Firm C, on the other hand, felt that it depended on the individuals involved rather than an overall impression.

- Relationship management

There is a consensus in the literature that the development of trust in client-vendor relationships is an important aspect of IT offshoring success. However, relationship management is not an area where the case study interviewees invested much time. The interviewees had different tactics when it came to managing the relationship with their vendors. Firm C found that the Serbians were very hierarchical in nature; if he could not influence the offshore project manager directly, he would state his case to the CEO, who would persuade the project manager. Firm B

found that, outside of projects, there would be very little contact. For Firm A, it came down to management by results. If he found a provider who gave good results he would give them more work. There was no little communication with the IT offshore providers outside of the work in the case of Firm A.

4. Conclusions

The deployment of offshore service providers to fulfil IT needs within the small company has become relatively common in the sectors studied in these case studies. Small companies generally look to outsource IT needs offshore as part of a cost reduction plan. However, business owners rarely seem to factor how much of their time will be spent in managing these arrangements. Cultural differences can have a detrimental effect on IT offshore outsourcing success for small companies, although employing an offshore outsourcing vendor with a UK-based intermediary may mitigate this risk. Research into small companies engaging in IT offshoring could be improved by carrying out more case studies in order to find if there are more applicable and generalizable conclusions and obtaining access to the other parties involved e.g. intermediaries; contractors and vendors in order to have a greater appreciation of this phenomenon. It would be of interest to carry out longitudinal case studies with small businesses who are about to engage in this practice to see how the success rate improves as the company's relationship with the activity matures, in order to appreciate the impact fully.

References

1. Chang, J and de Búrca, C.M. Towards a Framework for IT Offshore Outsourcing in Small and Medium-sized Enterprises, presented to the 2016 International Conference on Information Management, London, 5-7 May 2016.
2. Davis GB and Olson MH. *Management information systems: conceptual foundations, structure and development*, 2nded., New York: McGraw-Hill; 1984.
3. Bergman MM. (Ed.), *Advances in mixed methods research: Theories and applications*, Sage, 2008.
4. Oxford English Dictionary, 2014.
5. Brace I. *Questionnaire design: How to plan, structure and write survey material for effective market research*. Kogan Page Publishers; 2008.
6. Yin RK, *Case study research: design and methods*. 4th ed. Los Angeles, Calif.: Sage; 2009.
7. Saunders MN. *Research methods for business students*. 5th edition. Pearson Education India; 2011.
8. Beaver G and Prince C. Management, strategy and policy in the UK small business sector: a critical review. *Journal of Small Business and Enterprise Development*. 2004. 11(1). pp. 34-49.
9. Carmel E, Nicholson B. Small firms and offshore software outsourcing: high transaction costs and their mitigation. *Journal of Global Information Management*. 2005. 13(3). pp.33-54.
10. Moe NB, Šmite D, Hanssen GK, Barney H. From offshore outsourcing to insourcing and partnerships: four failed outsourcing attempts. *Empirical Software Engineering*. 2014. 19(5), pp. 1225-1258.
11. Di Gregorio D, Musteen M, Thomas DE. Offshore outsourcing as a source of international competitiveness for SMEs. *Journal of International Business Studies*. 2009. 40 (6). pp. 969-988.
12. Mirani R. Client-vendor relationships in offshore applications development: an evolutionary framework. *Information Resources Management Journal*. 2006. 19 (4). pp. 72-86.
13. Schechtman, J. (2012). Skype knew of security flaw since November 2010, researchers say. *Wall Street Journal*. May 1, 2012.
14. Russell, K.; (2013). Essentials: skype security risk everyone should know about. *Working the Cloud*. August 20, 2013.
15. Goodin, D., (2013) Think your skype messages get end-to-end encryption? Think again. *Ars Technica*. May 20, 2013.
16. Gregory R, Prifling M, Beck R. The role of cultural intelligence for the emergence of negotiated culture in IT offshore outsourcing projects. *Information Technology & People*. 2009. 22 (3). pp. 223-241.
17. Kuan YW, Aspinwall E. Characterizing knowledge management in the small business environment. *Journal of Knowledge Management*, 2004.8 (3). pp. 44-61.
18. Agrawal S, Goswami K, Chatterjee, B. The evolution of offshore outsourcing in India. *Global Business Review*. 2010. 11(2).239-256.
19. Plugge A, Janssen M. Managing change in IT outsourcing arrangements: an offshore service provider perspective on adaptability. *Strategic Outsourcing: An International Journal*. 2009. 2 (3). pp. 257-274.
20. Dedrick J, Carmel E, Kraemer KL. A dynamic model of offshore software development", *Journal of Information Technology*. 2011. 26 (1). pp. 1-15.
21. Brooks N. Understanding IT outsourcing and its potential effects on IT workers and their environment. *Journal of Computer Information Systems*. 2006. 46 (4). pp. 46-53.
22. Winkler JK, Dibbern J, Heinzl A. The impact of cultural differences in offshore outsourcing—Case study results from German-Indian application development projects. *Information Systems Frontiers*. 2008. 10(2). pp. 243-258.